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ABSTRACT

The results of a survey of 400 randomly selected principals from New Jersey, Pennsylvania, Delaware, and Maryland appear to validate a newly developed instrument for measuring three factors: the depth of principals' interests in information developed through educational research, the extent to which these principals exhibit rational approaches to information gathering, and the degree of management autonomy these principals consider themselves to have. This paper describes the theory underlying the study, the methodology used, the characteristics of the data source, the use of interviews with selected survey respondents to validate the survey findings, and some possible factors affecting the principals' attitudes as revealed through the interviews. According to the authors, the validated instrument will be used in further research on the relationship between principals' utilization of research, their attitudes towards scientific methods, and their effectiveness as instructional leaders. (PGD)

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FACTORS THAT AFFECT PRINCIPALS' USE OF RESEARCH

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Effective Schools, with increasing frequency, are being defined as those that can demonstrate student growth in subject matter achievement. This definition has a particular importance to building administrators because recent research on effective schools shows that school principals can have a direct effect on pupil achievement by taking a more active role in the instructional aspect of the school. School principals who are instructional leaders enhance pupil learning and, according to this product definition, apparently enhance school effectiveness.

Instructional leadership calls for a specific kind of expertise based on a body of knowledge as well as the skills of using this knowledge. Establishing and maintaining expertise requires the continuous integration of past and current relevant findings from experience and from research and development. If pupils are to attain higher levels of achievement through the principal's involvement in the instructional program, the administration needs to be armed with the best knowledge available on instruction and learning. Most school principals, however, do not utilize the informational power available from R & D findings.

As others have pointed out, the use of research information for decision making is a complex process involving the interaction of many organizational, social and political factors. These interactions are further complicated by obstacles to communication such as rarefied research terminology and statistical mystique. On the basis of our series of research, we propose that a significant portion of a principal's information usage is dependent upon two factors: a basic rational planning outlook and a concept we call management autonomy.

Distinct patterns of information use have been related to personal style. Berger and Andolino's survey of 1,000 administrators found that in education what seemed to make a difference in the research/practice transition is the personality of one or two key people. These people believe in research information--they value it. Hills suggests that the acquisition and utilization of specialized knowledge presupposes a commitment to the values of rationality, thinking and reasoning. Principals who consciously intend to acquire expertise as instructional leaders would seek out the knowledge base offered by research.

A possible role contradiction arises when one believes that a principal's authority traditionally has been derived from the occupancy of that office rather than from an authority based on superior knowledge or indispensable function.

Principals who perceive their role from the occupancy base are concerned with maintenance--with running the school smoothly and efficiently to the satisfaction of central office directions. These principals might be expected to be indifferent to research information if there is very little flexibility in how the information could be utilized. These principals see very few adjustable variables at their disposal. They are reactors to, rather than controllers of, the circumstances in which they are imbedded.

On the other hand, where principals operate from an authority based on expertise, they could be expected to be interested in all information--including educational research.

Weiss suggests that information usage depends upon the information's utility. But we suspect that perception of utility varies with the principal's overall attitude toward research use. This attitude, we propose, is related to a rational approach to information gathering and to the opportunity for management autonomy within the principal's role.

Consequently, to support this proposition, the purpose of this study was first to gain a measure of principals' research information interest, validate its selective ability and identify the presence or absence of the hypothesized components of management autonomy and rational planning.

Methods

The study employed a two-step data gathering process: (1) survey questionnaires to identify patterns of research information interest of principals and (2) follow-up interviews to validate the measured information interest.

Research information interest was measured by a Likert type questionnaire comprised of statements concerning research drawn from the research utilization literature and from interviews with principals. After factor analysis and pilot testing, 18 items survived statistical and structural criticism. The scores from these 18 items provided an index of research information use. The alpha reliability of this measure on a pilot study sample was .82.

The questionnaire scores were used to identify principals who held the most positive and most neutral attitudes toward research information use. Negative attitudes were not possible according to the scoring system.

Data Source

The research information use survey was sent to school principals in a random sample stratified by area (New Jersey, Pennsylvania, Delaware and Maryland). This regional approach was chosen so that follow-up interviews could be accomplished. Of the 642 questionnaires mailed, 394 (62%) usable forms were returned. The return rate was homogeneous for all sectors. Telephone follow-up of a random sample of non-respondents located no systematic factor which indicated that those who failed to return the questionnaire were distinct from those who did return it. Consequently, the approximately 400 principals who replied are considered a representative sample of principals in the four-state area. The sample included schools at all levels and combinations of grades K-12.

While the questionnaire data were useful in themselves, their first purpose was to locate high and low interest principals. Fifteen people who had high scores on the information use survey and fifteen who had low scores were selected for interviews. The selections were stratified to select five principals from each end of the scale from three different states: Pennsylvania, New Jersey and Delaware.

A fifteen-item interview script was prepared to draw out from principals' responses reflecting the influence of centralization of authority, strength of knowledge base, alternative sources of information, demonstrated usage of empirical information and, indirectly, their valuation of R & D information.

To diminish the reactant effects of any particular questioning style, sex or status, the interviews were arranged and conducted by three persons. The recorded interviews were transcribed and the comments were classified for characteristics indicating information interest or indifference. Neither interviewees nor coders knew the subject's original attitude scale scores.

Validation

The initial purpose of the interviews was to enable us to show that the principals selected by the questionnaire as interested or as indifferent to research information also were placed in those categories on the basis of the interviews. Several interview items were especially useful for providing behavioral descriptions which validate the ability of the research information use survey questionnaire to detect principals who are indifferent to empirical information and those who actively value it.

First, the principals were asked if they believed there was a real and adequate knowledge base for carrying out the important functions of their job. All respondents said "Yes." However, the Information Interested principals elaborated on this response by describing their strategies for accessing the knowledge. Information Indifferent principals said "Yes" but then negated this answer by statements such as, "There is knowledge available, but the quality is poor," or, "There are a lot of articles written but I think the knowledge base is just common sense."

A second demonstration of the differences in research information values occurred when the principals were presented cards showing three approaches to problem solving: social consensus, situational-intuitive, systematic-empirical. They were then asked to rank them according to the order they believed they would be most likely to employ these approaches. The two groups had a distinctly different pattern of first choices. Eleven out of fifteen Information Interested principals said they would most likely use a systematic-empirical approach. Information Indifferent principals were about equally split between a choice of social consensus and situational-intuitive approaches. The probability of this arrangement happening by chance is less than one in a thousand.

Third, in the interview the principals were given an opportunity to accept or refuse an actual research finding. The principals were informed of a study by the Philadelphia Reserve Bank and the School District of Philadelphia which reports that the more time principals spent in the classrooms, the higher students' achievement became. Then the principals were asked, "What evidence of this would you need to change routines in your school?"

Information valuing principals asked for details of the study and were able to consider the problems from a broader and more abstract perspective. Without exception, Indifferents were doubtful of the findings. They reported that such a phenomenon would not be likely in their schools due to the level of professionalism of the teachers and because the school policies on observations are arranged so that increasing or diminishing principals' contacts would

have no effect on student achievement measures. This interview item clearly discriminated research Information Interested from Information Indifferent principals.

In addition to the three indicators just described, we also examined principals' sources of information and research activities. When asked what their sources of information were, all participants named three to six sources that they relied on but the groups differed distinctly in their referents. Interested principals named formal sources such as agencies, publications and libraries, using primarily written material as their main sources. Eighty percent of these principals remarked that they read widely. Indifferent principals depended primarily on verbal contacts: their friends, staff, meetings and colleagues in the central administration. "I would not go to the library, I would call someone first," said one. Some recognized the pitfalls inherent when information comes from secondary sources but most trust those sources.

When asked how confident they were of the depth and timeliness of their sources, principals' replies again differed according to their placement in the value extremes. Information valuing principals were inclined to give specific criticisms and describe how they had to adapt and dig for information. They sifted and sorted their information: "The literature is not as pragmatic as I would like. You need to abstract from it." They asked questions about sources and generalizability but did not see these problems as barriers. The Information Indifferent principals had more confidence in their verbal contact

sources, perhaps because as one reported, "I'm reasonably confident of the information sources I use--after all I choose them." They are confident especially where they have personal contacts with the sources.

A large difference appeared between the principals when asked to respond to the question, "Have you participated in education information gathering activities?" While both groups had participated in such activities, the interested group mentioned much more frequent and varied participation. The indifferent group tended to mention primarily those things which related to some external requirement. Interested principals' personal involvement in research projects suggests that their actual behavior corresponds to their reported interest in research information. In addition, while Indifferents tended to consider information gathering in a rather narrow sense, focusing on mandated evaluation, the Interesteds took a somewhat broader view, looking at survival skills, gifted programs and morale, for example.

Many of the Indifferents were engaged in research activities, yet comments such as, "The superintendent wants us all to be doing the same things; there is no room for me to individualize," and "The things we do originate from central administration," indicated a certain lack of initiative on the part of this second group. Their orientation appeared to be more directed toward meeting requirements (such as New Jersey's "thorough and efficient" legislation) than to developing activities for the information they may provide. Several were reluctant to have research conducted in their schools because "it would irritate the teachers."

We believe these examples indicate that the information use survey validly classified these principals according to how they value R & D information.

Underlying Characteristics

In addition to validating the selection scales, the follow-up interviews shed light on the characteristics, background and training of principals which might be responsible for the variation in valuation of empirical information. All fifteen questions plus participant observation of organizational variables contributed data to this end.

For example, reactions to the question asking if they thought administration was more like an art or a science were rich in description of values. All interviewees agreed that administration is an art, however, information valuing principals said that sometimes it approaches a science or "sometimes you have to be scientific" or 'the trick is knowing when to use science and when not to." Information Indifferent respondents were rather similar in their initial agreement that administration is an art. However, none of the fifteen ever mentioned operating scientifically. The thought reflected repeatedly was that "you can't be scientific because you are working with people." As one principal said, "The job can't be scientific because it's 50 percent psychology." (Interesting view of psychology and the scientific process.)

The idea that one needs to be personally confident and competent to operate scientifically was salient to several information valuing principals, but a view that "science is a cold type of operation" exemplified the views of indifferent principals. Science and creativity

were perceived to be mutually exclusive categories by the majority of all thirty of the respondents. There must be some message there for training principals in tne behavioral sciences.

Additional meaning to the differences of values in behaviors is provided through the responses to the question, "If you have ever refused requests for information gathering activities, what were the circumstances?" In other words principals have many requests for research. The frequency of reported refusal was about equal across the interviewees but their reasoning was distinctly different. Information valuing principals agree to participate for reasons that may include political awareness. This is usually based on the source of the request and the idea of future reciprocity for information needs. Information valuing principals like to screen the requests according to their <u>own</u> standards of relevancy. They complain when the district office screens requests by outsiders for access to their schools or makes these decisions for them.

On the other hand, Information Indifferent principals <u>never</u> mention screening by the central office. They are for the most part very time-conscious in their decisions to participate in research and very aware of burdening the teachers and students with such reqeusts.

Information valuing principals tend to have a need to keep current with what is happening in the educational community. They appear to feel confident about their ability to adapt empirical findings to the needs of their institutions and they tend to think that research is helpful in providing information but that one needs certain information-processing skills.

Information Indifferent principals have largely the same point of view; however, they tend to put more emphasis on receiving practical information. They like journals that provide short, summary sketches of many different educational topics rather than longer, more theoretical articles and are more apt to ask professional friends for their opinions as a source of information. Information valuing principals mention journal articles quite frequently. Phi Delta Kappan and Educational Leadership are among the most frequently quoted journals. However, what each group stresses is that the information they read has to be adapted to their own situation.

As you would expect, information valuing principals appeared to have positive attitudes towards research and information-gathering activities--even when these were externally imposed by federal or state requirements. They seem to look forward to and encourage research by graduate students or the Department of Public Instruction. Indifferent principals tend to take a more distant view of research activities. Much of their involvement is mandated by outside agencies and they tended to be somewhat negative about "intrusions" into their schools by researchers and governmental data collection. They also tended to justify this reaction to research by saying things like, "The teachers find it a bit annoying."

Principals interested in research tended to take a directive stance on the running of the school, with a strong sense of personal commitment. In educational management this is called "proactive."

While Information Indifferent principals were as commited to their school (maybe more so) they had a strong extra-school professional orientation.

In particular, Information Indifferent principals have a concern with how they are viewed by the superintendent. For example, one said that "a lot of the encouragement for problem solving comes from the attitude of the superintendent."

While the information valuing principals would typically agree with this, they would also add a personal note about their own involvement, e.g., "I try to solve the problem"; "My line is always open"; "I'm always looking for ideas."

Discussion

It is evident from the results of this study that the research information use survey has the ability to classify principals according to their valuation of empirical research information. Furthermore, the attitude variability does make a difference in actual school information gathering activities. However, it is important to emphasize that the question "What difference does being interested in research information have to do with being a good principal?" was not addressed in this study. However, in a study done this past summer with a new sample of 19 principals from this same four-state region who had been nominated by their superintendents as exemplary--among the top ten percent they'd ever worked with--seven had scores which met the stringent "information interested criterion," and 21 percent (four of these 19) were as interested as the top 3.5 percent from our norming group.

If we could pursue this comparison for a moment it appears that exemplary principals are six times more likely to have high research information interest than a randomly drawn principal--at least in our middle Atlantic region.

We also have research information interest scores on a class of 16 Ed.D. students who are well established educational administrators, chosen from over 100 applicants. Thirteen of these can be classified as research Information Interested. We hope that by the end of their three-year program 100 percent will score as research interested.

A sense of personal cause and effect seems to parallel the principals' valuation of research information. Where principals reflect an attitude that control of themselves and their schools is from external sources research information is given a low value. This may be because there is an expectation that the usefulness and practicality of research information must be weighed and evaluated by others before it is valued by the principal.

We found it interesting that while, on the whole, the information valuing principals disavowed any support of scientific processes, the description of how they successfully carry out the important functions of their jobs suggests a tacit valuation of rational models. The information valuing principals interviewed indicate a heavy reliance on a process of: (1) verification of information, (2) modification by personal self-confidence and values, (3) development of inferences which support their future actions -- not unlike a rational planner. These characteristics of personal affect and rationality occurred in the strongly research Information Interested from all three data sets.

The use of systematically collected empirical information appears to require a quality of experience that supports personal exploration, experimentation and reflection. Our study indicates that for some principals this experience existed at the undergraduate level of academic work. The values which accompany experience in the social sciences are associated with interest in research information use although the experiences are seldom identified as being scientific. The values of science--social, behavioral and otherwise--appear to have a narrow definition.

It is clear to us that the interviews reveal the strengths that the social or behavioral sciences have to offer administrators need to be identified and emphasized in graduate training programs. Some work appears to be needed in removing the stereotype that scientific processes apply only to "the person in the white coat." In this study, for example, too many principals believe MBO and accountability represent the "science" of administration.

The usefulness of a conscious use of systematic, empirically gathered data for decisions needs to be elaborated. The implications for the training of administrators from this line of research are important. In what other profession are members expected to use research findings with limited and inconsistent training or experience with this type of thinking? There is reason to believe that if education wants its leaders to use the best information available, then there must be training in the valuing of information and use of scientific rationale in graduate leadership programs.

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Professional Position

Male ☐ Female ☐

RESEARCH INFORMATION USE SURVEY

R. Fillos & W. Bailey

After reading each statement, circle the number that indicates your level of agreement.

		Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly
1.	Research studies don't deal with the nitty-gritty issues of everyday life.	1	2	3	4
2.	Educational research can be used only by specialists.	1	2	3	4
3	Knowing where to go for information comes from experience more than from education.	1	2	3	4
4.	Time limitations are the major reason school people don't use research.	1	2	3	4
5.	The principal's primary job is to keep the building running smoothly.	1	2	3	4
6.	Research is more useful for help on staff problems than for student problems.	1	2	3	4
7.	Empirical data is a useful source of support for administrative decisions.	1	2	3	4
8.	The best source of information is someone who has been in a similar situation.	1	2	3	4
9.	Every problem is unique so the research studies and journal articles seldom have information I can use.	1	2	3	4

		Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly
10.	There would not be enough "pay off" for me to gather my own decision-oriented data base.	1	2	3	4
11.	Curriculum people are the school personnel most likely to use research findings	1	2	3	4
12.	The effects of school programs and policies can be reflected in student test scores.	1	2	3	4
13.	Outside information challenges the principal's authority.	1	2	3	4
14.	Testing programs provide information to back up teacher decisions.	1	2	3	4
15.	Administrators should have training as research consumers.	1	2	3	4
16.	Knowledge of research is a necessary precursor to planned change.	1	2	3	4
17.	Schools function best if outside intervention is kept to a minimum.	1	2	3	4
18.	Empirical support for a leader's philosophic position is a prime example of the usefulness of research.	1	2	3	4